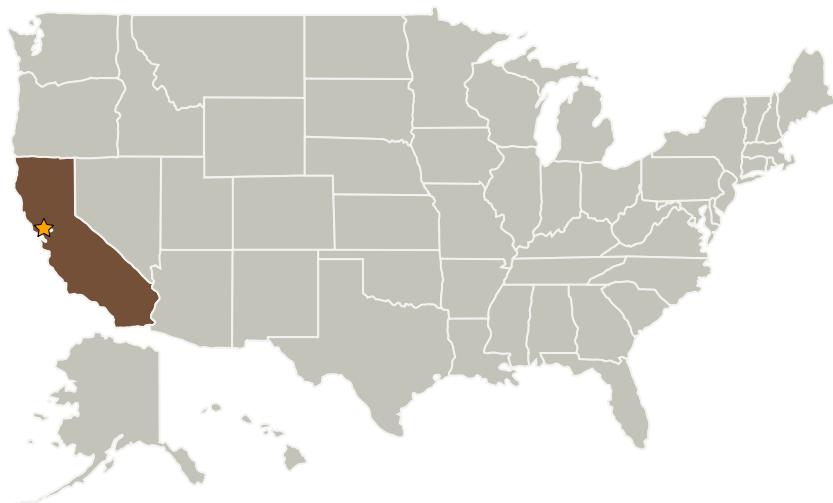




Project Introduction

The paper-based manual crew procedures that formed the basis of mission management for the manned space program are being replaced by electronic procedure representations and execution engines that support adjustable autonomy. Adhering to the conventions of the legacy procedures makes procedure authoring intuitive and less error prone than approaches that require the author to program in a formal planning language. However, this approach also preserves a drawback of the paper-based procedure: inflexibility in execution due to a lack of information about constraints implicit in the procedure. We propose to develop the Procedure Authoring with Constraints Tool (PACT), an intuitive graphical drag-and-drop and WYSIWYG authoring environment that preserves the conventions of the paper-base procedure, but adds the capability to capture timing and ordering constraints with minimal additional effort. During this Phase I project, we will specify user interface and functional requirements, create representative use cases, design the Phase II system, and develop and evaluate a proof-of-concept prototype to illustrate our approach and demonstrate its utility and feasibility.

Primary U.S. Work Locations and Key Partners



Authoring Procedures with
Timing and Ordering
Constraints, Phase I

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Organizational Responsibility	1
Project Management	2
Technology Areas	2

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission
Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation
Research/Small Business Tech
Transfer

Authoring Procedures with Timing and Ordering Constraints, Phase I



Completed Technology Project (2009 - 2009)

Organizations Performing Work	Role	Type	Location
★ Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Stottler Henke Associates, Inc.	Supporting Organization	Industry	San Mateo, California

Primary U.S. Work Locations

California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
 - └ TX06.6 Human Systems Integration
 - └ TX06.6.1 Human Factors Engineering